

### **ABSTRACT OF THE DISCLOSURE**

A method for determining the mass moment of inertia of an electric motor drive system of a machine, having a drive motor and further drive elements arranged downstream of the drive motor. The method includes a) determining a compensation current, which compensates losses occurring at a constant speed of the motor, so that a motor speed of the drive motor remains constant and b) determining an acceleration current, which generates a defined acceleration of the drive motor when the losses occurring at the constant speed of the drive motor are compensated. The method further entails c) calculating a mass moment of inertia of the electric motor drive system based on the determined acceleration current.